Polarimeter L1, L2 intercomparisons

Proposed plan

1. Kirk will host a website with information required to perform L1, L2 intercomparisons (location TBD but probably earthscience.arc.nasa.gov/person/Kirk_Knobelspiesse)
2. L1 comparison scenes + matchup results listed for PODEX, SEAC4RS +
3. Instrument PI's to perform L2 retrievals on these scenes.
4. Kirk to perform 'error projection' ie simulation of retrieval error based on measurement uncertainty
5. Above compared to L2 retrieval results
6. Update, refine, as calibration improves, data are gathered, and algorithms become more sophisticated
7. Goal is initial results for Fall AGU presentation timeframe

- This does not preclude independent L1, L2 analysis by polarimeter teams
- Anybody can propose comparison scenes.
- Additional scenes will prioritize comparability, in situ/comparison data availability
- Limited access to website? No public release until unanimous PI consent?
- GRASP vs in house retrieval algorithms?

Current L1 comparison scenes:

Field Campaign	Date	AirMSPI time	RSP time	AM min Lat.	AM max Lat.	AM min Lon.	AM max Lon.	RSP min scan	RSP max scan	# RSP scans	RSP aggregate alt (m)	Flight Fraction	Wing flex	AM file type	Saveset name	Comments
PODEX	1/31/13	211538	210829	34.829	34.911	-118.145	-118.035	502	548	46	ground	0.760	1.59	000N	Rosamond	
PODEX	2/3/13	221143	214011	36.591	37.011	-122.145	-121.845	2058	2134	76	0	0.927	1.54	SWPF	BayA	Northern Monterey Bay scene. Low reflectance, moderate/high DoLP
PODEX	2/3/13	221143	214011	36.591	37.011	-122.145	-121.845	2150	2225	75	0	0.927	1.54	SWPF	BayB	Same scene as above, more southerly cloud free portion
PODEX	2/3/13	181210	175256	36.767	36.866	-122.536	-122.435	1381	1397	16	1226	0.149	1.96	000N	CLDY181210	Marine Sc cloud @ ~ 1.2km
PODEX	2/3/13	194304	191855	38.273	38.391	-124.953	-124.824	1713	1774	61	1290	0.449	1.74	000N	CLDY194304	Marine Sc cloud @ ~ 1 km
PODEX	2/3/13	203602	202948	36.840	37.011	-125.031	-124.931	420	516	96	1290	0.624	1.64	000N	CLDY203602	Marine Sc cloud @ ~1.1km
PODEX	2/6/13	230819	230138	33.532	33.660	-118.161	-118.009	464	525	61	0	0.958	1.53	000N	Huntington	Clear coastal S. Cali scene, overpass of AERONET SeaPRISM site. Low reflectance, high DoLP

Additions to consider PODEX 'scorecard'

Priority	Description	Preferred location	Achieved by AirMSPI y/n , date	Achieved by PACS y/n , date	Achieved by RSP y/n , date	Required Coordination w/ DISCOVER-AQ (spec. instruments)
1a	Completely cloud-free, aerosol-free conditions	over ocean	Yes, 1/14/2013 no DAQ data; 2/6/2013 on transit with HSRL (not aerosol free)	2/6/2013 on transit with HSRL (not aerosol free)	Yes, 1/14/2013 no DAQ data; 2/6/2013 on transit with HSRL (not aerosol free)	Yes (B200 flew over water on 2/6/2013 – None with P3)
1b	Completely cloud-free, aerosol-free conditions	Rosamond dry lake & DAOF parking lot	Yes, Rosamond, 1/31/2013	Yes, Rosamond, 1/31/2013	Yes, Rosamond, 1/31/2013	No (DAOF attempts (2) were cloud contaminated)
2	Targets of opportunity: high aerosol loading (any type)	Any surface				Yes (aerosol in situ, HSRL)
3	Stratus cloud deck	Ocean	Yes, 2/3/2013	Yes, 2/3/2013	Yes 2/3/2013	Yes (CAPS, HSRL) (CAPS but no HSRL on 2/3/2013)
4	Moderate aerosol	Ocean (beyond continental shelf)	2/6/2013 just off the LA coast	2/6/2013 just off the LA coast	2/6/2013 just off the LA coast	Yes (B200 flew over water on 2/6/2013 – None with P3)
5	Moderate aerosol	Dark land surface	Yes 1/16/2013, 1/18/2013	Yes 1/18/2013, 1/20/2013 (optimizing settings)	Yes 1/16/2013, 1/18/2013, 1/20/2013, 1/31/2013	Yes (aerosol in situ, HSRL)